

REMARKS

In response to the Office Action dated September 3, 2009, Applicants respectfully request reconsideration based on the above claim amendments and the following remarks. Applicants respectfully submit that the claims as presented are in condition for allowance.

Claims 1-14 are pending in the present Application. Claims 1, 9 and 12 are amended, leaving Claims 1-14 for consideration upon entry of the present amendments and following remarks.

Support for the claim amendments can at least be found in the specification, the figures, and the claims as originally filed.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Rejections under 35 U.S.C. §101

Claims 12-14 are rejected under 35 U.S.C. 101 as being allegedly directed to non-statutory subject matter. The rejection is reiterated from the previous Office action dated November 18, 2008. More particularly, with reference to the Office's recent "Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 USC 101," effective August 24, 2009 (hereinafter "Instruction"), it is noted that the use of the particular machine or transformation must impose a meaningful limit on the claims scope, and that the use of the particular machine or the transformation of the particular article must involve more than insignificant extra-solution activity. (See, page 5 of the Instruction.)

On Pages 3 and 4 of the instant Office action, it is stated that the "computer processor" included in the preamble, and the steps of "storing" and "outputting" recited in the claim, would fall into the category of insignificant extra-solution activities. It is acknowledged that while the steps of the method in Claim 12 refer to a "biochip," which *is interpreted as a machine or apparatus*, it is actually the "results of the biochip" that are analyzed in the claimed method without requiring that the biochip itself be used in the claims. It is suggested that the rejection could be overcome by amending the claims to produce a physical transformation or *tie to a particular machine or apparatus* in steps that are not insignificant extra-solution activity.

In response, recognizing that a “computer processor” and a “biochip” are considered a machine or apparatus, Claim 12 is hereinabove amended to tie the “computer processor” and a “biochip” to the steps of the method of genotyping analysis, as follows:

A method of performing a genotyping analysis on a target sample in a server-client network system, the method comprising:

- receiving, via a **computer processor of the client system**, test results of a biochip test **using a biochip** on the target sample;
- identifying, via the **computer processor**, the biochip used on the target sample;
- selecting, via the **computer processor**, a genotyping analysis algorithm from an analysis algorithm database for the identified biochip;
- downloading, via the **computer processor**, the selected genotyping analysis algorithm from the analysis algorithm database stored on the server, the analysis algorithm database storing a plurality of genotyping analysis algorithms;
- performing the genotyping analysis, via the **computer processor...**”

Support for the amendments to Claim 12 is found in Figures 1 and 2, and in the specification at page 2, line 23 and page 6, lines 2 and 3.

Applicants respectfully submit that amended Claim 12, and Claims 13 and 14 as depending thereon, ties to a particular machine or apparatus in steps of the method of performing a genotyping analysis, includes steps where the particular machine or apparatus are not insignificant extra-solution activity, and therefore recites proper statutory subject matter pursuant to the provisions of 35 U.S.C. §101. Entry of the claim amendments, reconsideration and withdrawal of the relevant §101 rejections of Claims 12-14 are respectfully requested.

Claim Rejections Under 35 U.S.C. §103

Claims 1-14 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Osborne et al. (WO 01/16860 A2). Applicants respectfully traverse the rejections for the reasons set forth below.

Amended independent **Claims 1, 9 and 14** similarly recite, *inter alia*:

“the *client system* performing:
selecting a genotyping analysis algorithm from the analysis algorithm database storing a plurality of genotyping analysis algorithms, for the identified biochip,
downloading the selected genotyping analysis algorithm from the analysis algorithm database,

performing the genotyping analysis on the test results of the biochip using the downloaded genotyping analysis algorithm.”

In the instant Office action, it is stated that absent an explicit definition in the specification, the term “analysis algorithm” in the claims, is interpreted as any algorithms used for any analysis. Regarding Osborne, it is asserted that “genomic mutations” described at Page 12, lines 20 and 31 are interpreted as “genotyping” of the claimed invention.

To better set forth the invention, Applicants hereinabove amend independent Claims 1, 9 and 12 to include “*genotyping* analysis algorithms,” as described for example, on page 2, lines 27 and 28, page 4, lines 10, 21, 31 and 33, and page 5, lines 10, 11 and 13.

Osborne specifically relates to a system for acquisition and analysis of hybridization information. (See, for example, Abstract and first paragraph on page 5 of Osborne.) On Page 6 of the instant Office action, citing page 5 of Osborne, the system relating to only hybridization is considered as teaching the claimed system for *genotyping* analysis. Applicants respectfully submit that performing genotyping analysis of the claimed invention using specific genotyping analysis algorithms, is different from, and is not taught or suggested from merely analyzing hybridization information of Osborne. For example, the databases described and illustrated in Figures 1 and 2 of Osborne, do not include specific *genotyping analysis algorithms*, as claimed.

Specifically, since Osborne only relates to analyzing hybridization information, Osborne does not teach or suggest the client system performing receiving test results of a biochip on the target sample, selecting a genotyping analysis algorithm from the analysis algorithm database storing a plurality of genotyping analysis algorithms, for the identified biochip, downloading the selected genotyping analysis algorithm from the analysis algorithm database, performing the genotyping analysis on the test results of the biochip using the downloaded genotyping analysis algorithm, storing results of the genotyping analysis in the client system, and outputting the results of the genotyping analysis to a user at the client system via a graphical user interface of the client system, wherein the selected genotyping analysis algorithm is established using statistical data for results of performing testing on a number of patient and reference samples using the biochip of amended independent Claims 1, 9 and 12.

Furthermore, in response to Applicants' arguments on Page 11, it is concluded that since Osborne allegedly teaches that for one application, accounts for diagnostic masters are authorized and correspond to the user sites where the systems are deployed, referring to page 12, lines 16-27 of Osborne, it would have been obvious to one having ordinary skill in the art that if the systems are *deployed*, they must have been provided to the users, and the result is that the system is deployed and transferred *regardless of what and who triggers the transfer*, which is not a claim limitation. Applicants respectfully disagree.

Independent Claims 1, 9 and 12 each clearly recite that the **client system performs the downloading** the selected genotyping analysis algorithm from the analysis algorithm database. That is, each of the independent claims includes a limitation as to who triggers the providing of the genotyping analysis algorithm, such that the **client system performs the downloading** of the genotyping analysis algorithm, contrary to the assertion in the instant Office action.

For all the reasons discussed in the response to Office action of May 29, 2009 (See, last paragraph on Page 13 through line 8 of Page 15), Osborne in no way teaches or suggests the "system" being deployed or provided, such that *the user facilities/diagnostic users (as the "client") specifically downloads* any portion of the servers, and especially downloads the "databases of rules" (as the "genotyping analysis algorithms") to perform processing and analysis of data, as claimed. Therefore, Osborne *does not teach or suggest* at least **the client system performing downloading the selected genotyping analysis algorithm from the analysis algorithm database** of independent Claims 1, 9 and 12.

Moreover, it asserted on Page 6 of the instant Office action that Osborne (Figure 1 and pages 4-6) teaches a network system comprises a server that includes multiple databases required for genetic analysis, which are provided to *the client that performs the genetic analysis*. Applicants respectfully disagree that the *client* performs the analysis, especially by using a *client-downloaded* genotyping analysis algorithm, as claimed.

With respect to the "network" of Osborne on pages 4-6 of Osborne, specifically at page 5, lines 12-22, a central data processing facility includes a Web server communicating with the user facilities, a database server, and an application server between the Web server and the database server. Specifically referring to Figure 1 of Osborne, Osborne further teaches that while the *user facilities/diagnostic users (as the "client")* performs generic pattern processing

and requests a pattern match for a chip ID from the central processing data facilities (as the “server”), the Web server receives the request from the user, and it is the Application server performing the actual patterning match. (See, page 18, line 30 to page 19, line 4, and Figures 1 and 2 of Osborne.) The rules-based intelligent system described on Pages 19-22 of Osborne is performed by the Application tier, as shown in Figure 2. In a manner of practicing the invention, all the data processing is done at the *central data processing facility*, not at any user facility. (See, page 5, lines 23-30 of Osborne.) With reference to Page 12, lines 16-29, Osborne specifically teaches that the diagnostic users can merely designate either individual chip test results or groups of chips as a single diagnostic user. In contrast, it is the diagnosis processing that is performed in the Application tier of the central processing facility, as discussed above with reference to Figures 1 and 2 of Osborne (reproduced below).

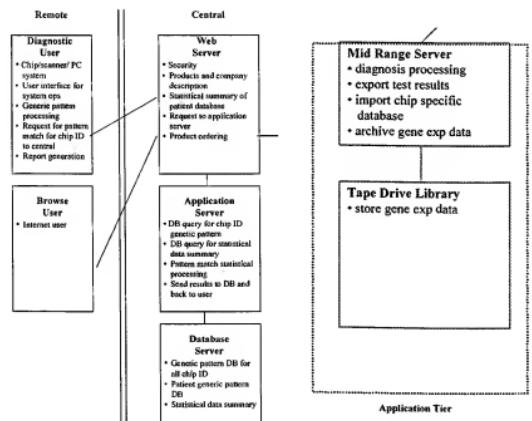


Figure 1: System Architecture

Figure 2

Therefore, Osborne further *does not teach or suggest the client system downloading the selected genotyping analysis algorithm from the analysis algorithm database, and performing the genotyping analysis on the test results of the biochip using the downloaded genotyping analysis algorithm* of independent Claims 1, 9 and 12.

Finally, at Page 7 of the instant Office action, it is asserted with reference to page 11, lines 16-29 of Osborne that Osborne teaches diagnostic users (as part of the “client system”) perform diagnostic processing, and to perform the diagnostic processing, the user first receives (i.e., downloads) the systems because they are “deployed.” Applicants respectfully disagree that the systems are “downloaded” because they are merely “deployed,” and more specifically that the systems are “downloaded *by the user*,” for the reasons set forth below.

On pages 4-6 and 11 of Osborne, specifically at page 5, lines 2-6, Osborne merely teaches each user facility may include a user interface to analyze hybridization information. At page 5, lines 8-10 and page 11, Osborne merely teaches the user interface (of the user facility) may be used to analyze proteomics related information. At page 6, lines 10-11, Osborne merely teaches that users perform statistical tests on profiles stored in the central data processing facility, and a variety of statistical analysis are provided to suggest and evaluate hypothesis. In a preferred embodiment described at page 11, lines 18-25, the user utilizes the system’s Internet access to perform diagnosis processing.

For purpose of this response only, even if the “analyzing hybridization information,” the “analyzing proteomics related information,” the “performing statistical tests” or the “diagnosis processing” is considered as some type of “performing genotyping analysis” by the user, Osborne teaches the user only connects to the network servers through the Internet to display data and perform the analysis on a user interface. That is, there is still no teaching or suggestion in Osborne of performing such analysis using any *downloaded* analysis algorithm with the user interface, and especially a downloaded *genotyping analysis algorithm* with the user interface. To the contrary, since Osborne fails to teach any *user-downloaded* analysis algorithm, especially a user-downloaded *genotyping* analysis algorithm, the user necessarily does not perform *genotyping analysis* using the user-downloaded genotyping analysis algorithm, as claimed. Therefore, Osborne further *does not teach or suggest the client system downloading the selected genotyping analysis algorithm from the analysis algorithm database, performing the genotyping analysis on the test results of the biochip using the downloaded genotyping analysis algorithm* of independent Claims 1, 9 and 12.

Since Osborne *fails to teach or suggest* all of the limitations in amended independent Claims 1, 9 and 12, it is respectfully submitted that *prima facie* obviousness does not exist regarding at least amended independent Claims 1, 9 and 12. Applicants respectfully submit that Claims 1, 9 and 12, and Claims 2-8, 10, 11, 13 and 14 as variously depending from Claims 1, 9 and 12, are not further rejected or objected, and are allowable. Entry of the claim amendments, reconsideration, withdrawal of the relevant claim rejections and allowance of Claims 1-14 are respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Applicants hereby petition for any necessary extension of time required under 37 C.F.R. 1.136(a) or 1.136(b) which may be required for entry and consideration of the present Reply.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicants' attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

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